



{In Archive} Westlake Landfill, MDNR letter and EPA instructions to PRPs

Dan Gravatt to: Cecilia Tapia

05/24/2010 11:25 AM

Cc: Cheryle Micinski

Archive:

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Cecilia,

As you requested, here are the PDF versions of MDNR's "approval-with-comments" letter on the Westlake SFS workplan, and EPA's follow-up letter to the PRPs giving them guidance on how to modify the workplan in response to MDNR's comments.

Sincerely,

Daniel R. Gravatt, PG

US EPA Region 7 SUPR / MOKS

901 North 5th Street, Kansas City, KS 66101

Phone (913) 551-7324 Fax (913) 551-7063



EPA instructions to PRPs on MDNR comments on SFS WP.pdf



2010 0430 WLL SFS WP Rev 1 DNR final comments.pdf

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

MAY 21 2010

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Paul Rosasco, PE
Engineering Management Support, Inc.
7720 West Jefferson Avenue, Suite 406
Lakewood, Colorado 80235

Dear Mr. Rosasco:

Re: Missouri Department of Natural Resources' Comments on the Revision 1 Work Plan for Supplemental Feasibility Study, Radiological-Impacted Material Excavation Alternatives Analysis, for West Lake Landfill Operable Unit 1, March 29, 2010

The United States Environmental Protection Agency (EPA) has reviewed the Missouri Department of Natural Resources' (MDNR) comments, dated April 30, 2010, on the Revision 1 Work Plan for the Supplemental Feasibility Study (SFS). As previously communicated to you via telephone and electronic mail, EPA has some concerns with MDNR's comments and attempted to resolve those concerns through several teleconferences with them. MDNR has indicated verbally to EPA that they do not wish to further delay the SFS process although they still have outstanding questions. It is EPA's intention to complete the SFS process in a timely manner so that remedial action at the site can begin.

The purpose of this letter is to provide direction on addressing MDNR's April 30 letter and the comments provided therein so the Final SFS Work Plan can be submitted pursuant to EPA's approval letter of April 29, 2010. Please make the following changes to the Revision 1 SFS Work Plan in response to MDNR's comments:

- MDNR Comment 1, "Applicable or Relevant and Appropriate Requirements (ARARs)": Do not make any changes to the SFS Work Plan in response to this comment. As was discussed during our conference calls with MDNR, EPA agrees with the ARAR discussion in Section 2.1.1 of the Revision 1 SFS Work Plan. Consistent with EPA guidance (Office of Solid Waste Emergency Response [OSWER] Directive 9200.4-25, Use of Soil Cleanup Criteria in 40 CFR 192 as remediation Goals for the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] Sites), these soil standards may be relevant and appropriate to CERCLA sites with soil contaminated with radium and thorium isotopes. Consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, the ARAR determination should be made based on the nature of the remedy, the contaminants involved, and the intent of the requirements. The soil standards are intended to be used to address properties

contaminated with tailings. The purpose is to mitigate the risk from radon and gamma exposure to potential residents using the contaminated land. These standards are not intended to address wastes contained in solid waste disposal units. The standards were appropriately identified as relevant and appropriate to the remediation of accessible soils at the St. Louis FUSRAP sites, for example. The standards are also relevant and appropriate to remediation of contaminated soils on the Buffer Zone/Crossroad property adjacent to Area 2. In contrast, these standards are not appropriate for solid waste materials disposed in the landfill. Like other landfills, engineered containment of wastes is the intended use of the West Lake Landfill and land use is restricted to activities that do not interfere with the engineered containment. Residential use will not be allowed.

For purposes of the SFS, the "complete rad removal" alternatives are intended to result in solid waste disposal units that can be closed according to the Missouri solid waste rules and that do not need to be managed for their radiological content. For this SFS evaluation, the surface soil standard from 40 CFR 192 is being used to define "complete rad removal." This is based on the rationale that using a surface soil standard intended to be safe for residential land use is more than sufficient to remove radiological considerations as a concern for landfill closure. The soil standard is not being used as an ARAR.

- MDNR Comment 2, "Cleanup Levels for Uranium": Include a reference to the St. Louis Airport Site Record of Decision in Section 2.1.2 of the Final SFS Work Plan indicating that the risk calculations requested by MDNR are available in that document. In addition, include a discussion of how the noncarcinogenic risks from exposure to uranium will be addressed in the SFS.
- MDNR Comment 3, "Preliminary Remediation Goals": Include a brief statement in Section 2.1.2 that risk-based preliminary remediation goals were not used in the development of cleanup levels for use in the SFS, consistent with the OSWER directives discussed in Section 2.1.1.
- MDNR Comment 4, "Baseline Risk Assessment": Include a brief statement in Section 2.1.2 that the site-specific Baseline Risk Assessment (BRA) is not being used to justify the cleanup values presented in Section 2.1.2, and that the comparisons made in this section between the BRA results and the cleanup levels from the UMTRCA regulations are provided only as an additional qualitative line of evidence that these cleanup levels will be protective of human health.
- MDNR Comment 5, "Background Concentrations": Include a brief discussion in Section 2.1.3 of the use of mean plus 2 sigma values for background concentrations instead of the mean values and the differences in the calculated background concentrations from both approaches. Do not include any plans for collecting additional background samples as MDNR requests as this is outside the scope of the SFS. Should additional background data be warranted due to a change in the remedy, the data can be obtained during the Remedial Design. The purpose of the SFS is to further evaluate complete excavation alternatives and not to conduct additional Remedial Investigation work.

- MDNR Comment 6, "Radon Migration Offsite": Include a brief statement in Section 2.11 that risks posed by off-site exposure to radon gas will be evaluated, including the effects of migration of thorium and radium parent isotopes in groundwater if such migration is predicted by the groundwater modeling discussed in this section.
- MDNR Comment 7, "Sum of Ratios": Include a brief statement in Section 2.1.1 that the sum of ratios method for computation of radiological cleanup levels is not being used for the SFS because it is not consistent with the OSWER directives discussed in this section.
- MDNR Comment 8, "Modeling Approaches": Include a reference or references in Section 2.11 to sources of information on the use of the modeling tools included in the SFS Work Plan.

EPA hereby approves the Revision 1 SFS Work Plan with the changes listed above and the comments provided in EPA's letter of April 29, 2010. Please provide a hard copy of the document which implements these changes to the text and a revised title page to indicate the document is the Final Work Plan. If you have any questions, you may contact me at (913) 551-7324.

Sincerely,



Daniel R. Gravatt
Remedial Project Manager
Missouri/Kansas Remedial Branch
Superfund Division

cc: Shawn Muenks, MDNR
Rich Kapuscinski, EPA Headquarters (e-mail only)
Charlotte Neitzel, Holme Roberts & Owen (e-mail only)
Christina Richmond, U.S. DOJ for U.S. DOE (e-mail only)
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STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Mark N. Templeton, Director

www.dnr.mo.gov

April 30, 2010

Mr. Paul Rosasco, P.E.
Engineering Management Support, Inc.
7220 West Jefferson Avenue, Suite 406
Lakewood, CO 80235

RE: Comments on Draft Revision 1 - Work Plan for Supplemental Feasibility Study
West Lake Landfill Operable Unit 1, Bridgeton, Missouri

Dear Mr. Rosasco:

The Missouri Department of Natural Resources has completed its review of the above referenced document prepared by Engineering Management Support Inc. (EMSI), and is transmitting the enclosed final comments. These comments have been compiled by the Department's Hazardous Waste Program, Federal Facilities Section with assistance from other programs within the Department and other State agencies.

Overall, the Department does not agree with some of the conclusions drawn in this work plan, as outlined in the attached comments. However, for the purposes of this Supplemental Feasibility Study, the conclusions and objectives of the work plan may be used to compare the additional alternatives to the current selected remedy in order to make an informed decision on the path forward for West Lake Landfill.

Thank you for giving us the opportunity to review and comment on this document. If you have any questions pertaining to these comments please contact me by phone at (573)751-3107, or by written correspondence at P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

HAZARDOUS WASTE PROGRAM

Shawn Muenks

Shawn Muenks, P.E.
Federal Facilities Section

SM:dd

c: Mr. Dan Gravatt, U.S. Environmental Protection Agency



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MISSOURI DEPARTMENT OF NATURAL RESOURCES

Comments on the

West Lake Landfill Operable Unit 1

Draft Revision 1 - Work Plan for Supplemental Feasibility Study

GENERAL COMMENTS:

1. Applicable or Relevant and Appropriate Requirements (ARARs)

Section 2.1.1 states that "the standards established under 40 CFR 192 Subpart B [UMTRCA] are neither applicable nor relevant and appropriate to the solid waste landfill areas at the West Lake site" (last paragraph on page 6). While the Department does not necessarily disagree with use of these standards for the purpose of this Supplemental Feasibility Study, the Department does not agree with this ARAR conclusion. The U.S.EPA determined in the Record of Decision (ROD) that the UMTRCA soil cleanup standards were not applicable but were relevant and appropriate to cleanup of soil containing radionuclides at the Buffer Zone/Crossroads properties. The work plan states that "these standards are not considered to be relevant and appropriate as they do not address conditions that are sufficiently similar to the West Lake Landfill." The Department does not agree with this unsupported assumption, given the lack of data on the nature of material in the landfill. It is recommended that the UMTRCA standards be considered as a possible ARAR for the solid waste landfill areas until such data is collected that proves otherwise. The Department understands the use of the UMTRCA standards for this study until a more definitive ARAR conclusion can be made.

The use of UMTRCA standards should also be supported by determination on whether the cleanup standards are protective of public health as part of the Threshold Criteria. It is recommended that RESRAD be utilized to develop an estimated dose and risk on and off-site using the UMTRCA cleanup standards, as well as derived concentration guideline levels (DCGLS). This should include evaluation of both residential and leaching to groundwater pathways. It is recommended that the International Commission on Radiological Protection (ICRP) Publication 72 dose conversion factors be used.

2. Cleanup Levels for Uranium

Section 2.1.2 Evaluation of Soil Cleanup Levels for "complete rad removal" references 81 pCi/g as the remedial goal for U-238, which was used as a surrogate for total uranium in the St. Louis Airport Site (SLAPS) ROD. This value was then revised downward to 50 pCi/g to account for Protactinium-231 and Actinium-227 concentrations above secular equilibrium. For this Supplemental FS, please provide the risk calculations used to derive this cleanup value. In addition, along with the risk calculations; please include discussion on how U-235 series decay radionuclide concentrations will be addressed, including Protactinium-231 and Actinium-227.

Also, it is our understanding that the cleanup value for uranium was calculated for carcinogenic risk only. OSWER Directive 9200.4-18, Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination, requires that radiological and non-radiological risk be additive. Please provide clarification on how the non-carcinogenic risk from exposure to uranium will be addressed.

3. Preliminary Remediation Goals

The EPA Risk Assessment Guidance for Superfund, Volume I – Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals), Interim, December 1991, provides guidance on using EPA toxicity values and exposure information to derive risk-based preliminary remediation goals (PRGs) in order to provide long-term targets to use during analysis and selection of remedial alternatives. This work plan discusses cleanup levels but does not mention development of PRGs. Please identify how PRGs will be used during this study.

4. Baseline Risk Assessment

The use of risk calculations from the Baseline Risk Assessment to justify cleanup values as described in Section 2.1.2 is not recommended for the following reasons.

- a. The document was developed in 2000, which may not include current modeling for assessing dose and risk from exposure to radionuclides.
- b. The exposure scenarios used to assess dose/risk for future on-site workers are not representative of the “complete rad removal” scenario. Therefore, the calculations provided on Page 8 of the work plan are not representative of potential risks associated with UMTRCA.
- c. Using a 300 fold reduction factor in radiological concentrations under the “complete rad removal” scenario to quantify a maximum projected risk level is not considered a valid risk calculation.

If risk levels are needed to justify the cleanup levels set forth in UMTRCA regulations, a site-specific risk assessment using current risk-based input values should be conducted.

5. Background Concentrations

The Department has reservations about using mean + 2 sigma as background concentrations versus using just the mean (see comment #17 from previous MDNR comments). Also, using only 4 background samples is questionable. Guidance for obtaining the appropriate number of samples can be obtained using MARSSIM. Data quality objectives that address collection of additional sampling for background should be included in the SFS. Additional background samples should be selected from areas with similar physical, chemical, geological, radiological, and biological characteristics as the survey unit being evaluated as instructed by MARSSIM.

6. Radon Migration Offsite (repeat of MDNR Comment #7 from previous comments)

The work plan needs more discussion on how radon generation will increase as part of the decay series and how off-site migration will be monitored and controlled. Migration of thorium-230 and radium-226 series in soils and groundwater is necessary in order to assess potential exposure to radon pathway in buildings. Please discuss how offsite exposure to radon gas from migration of radium and thorium will be addressed.

7. Sum of Ratios (repeat of MDNR Comment #8 from first previous comments)

The revised work plan did not contain dialogue on the sum of ratios for computation of radiological cleanup levels. MDNR supports the use of this method. Please include discussion on the applicability of this approach.

8. Modeling Approaches

The department is unfamiliar with some of the modeling software and methods presented in the work plan. In particular, Section 2.11 specifies the use of Microshield[®] software to calculate exposure rates from radiologically-impacted materials to the selected short-term receptors and the method described in NUREG/CR-3533 (NRC, 1984) to estimate radon emanation from soil concentrations of radium-226. Please provide reference to sources that can be used to learn more about these modeling tools.